008027 "9h,21E260

FIG. 1

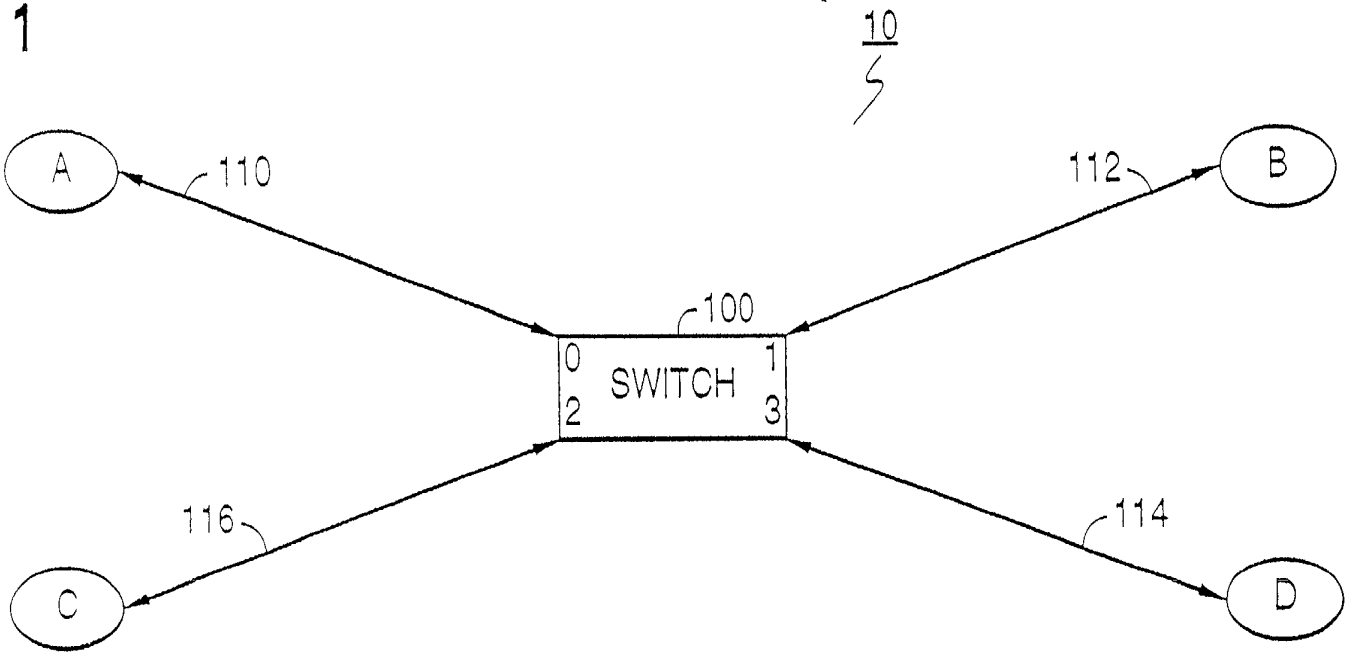
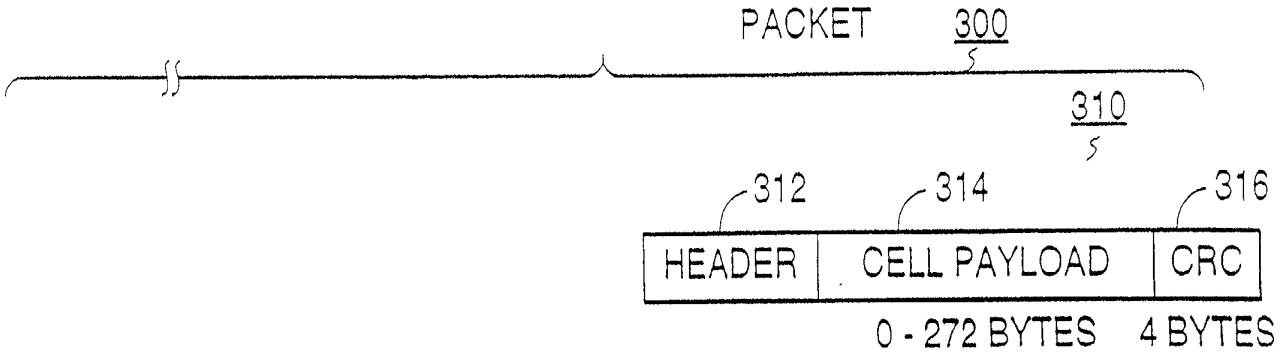
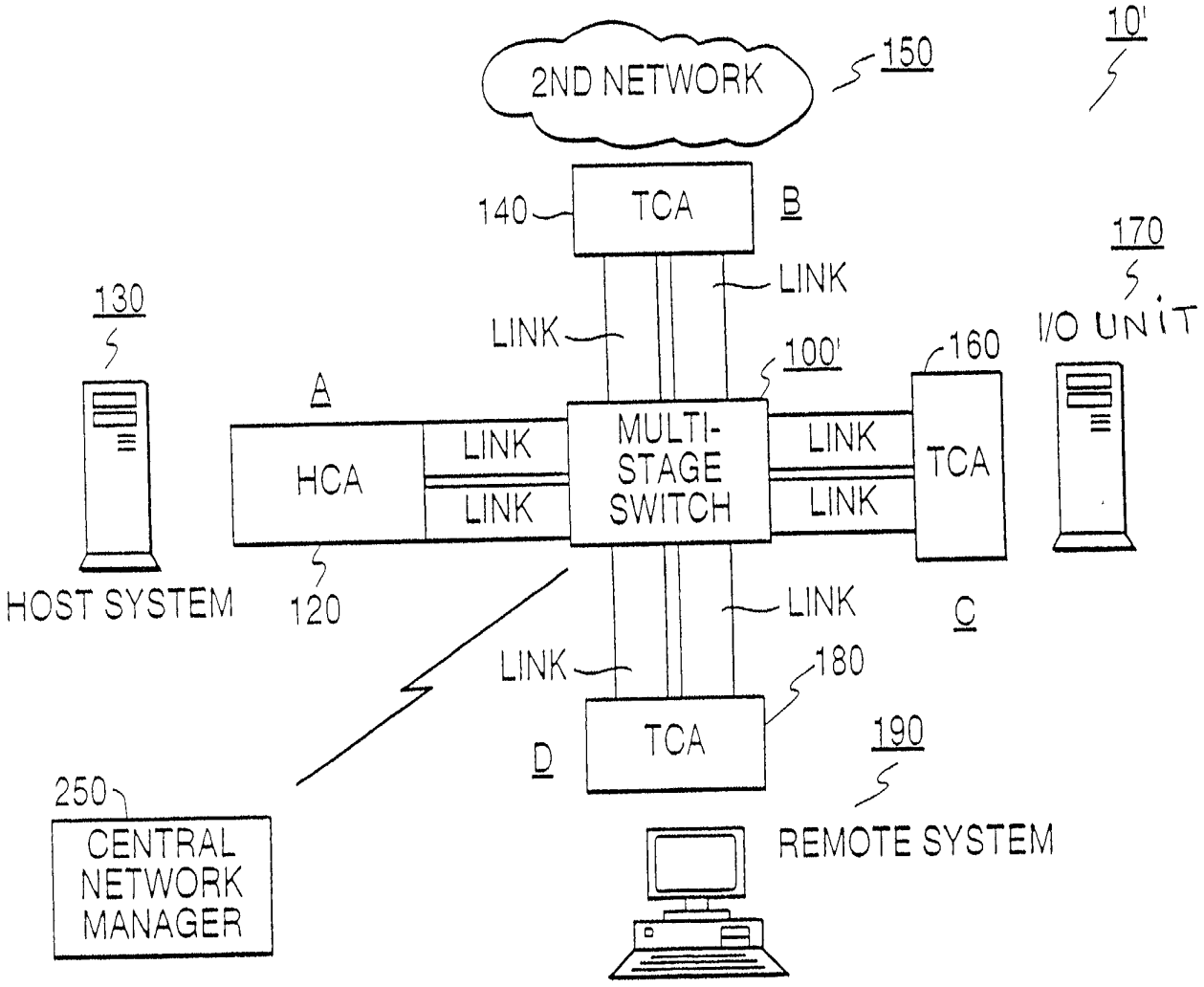


FIG. 3A



09734760 "960802"

FIG. 2



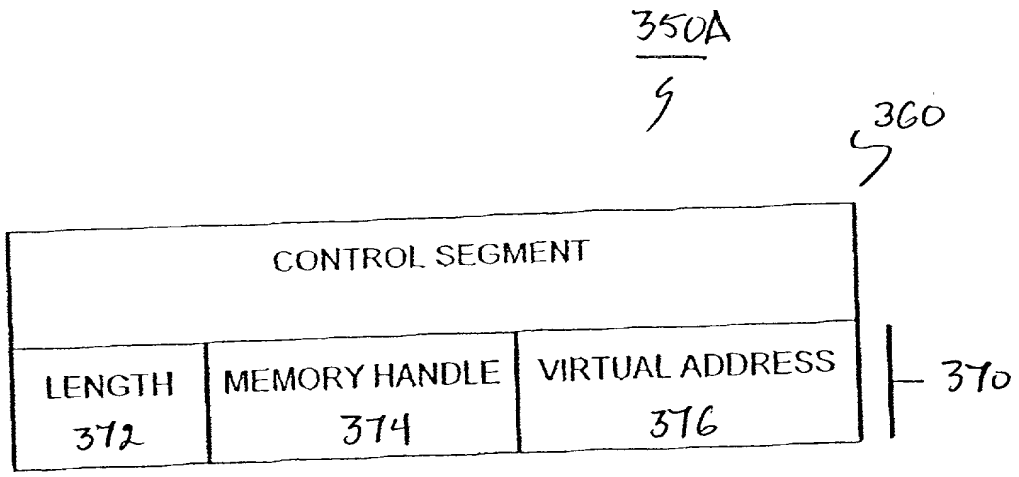

350A
360
CONTROL SEGMENT
LENGTH
372
MEMORY HANDLE
374
VIRTUAL ADDRESS
376
370

FIG. 3B

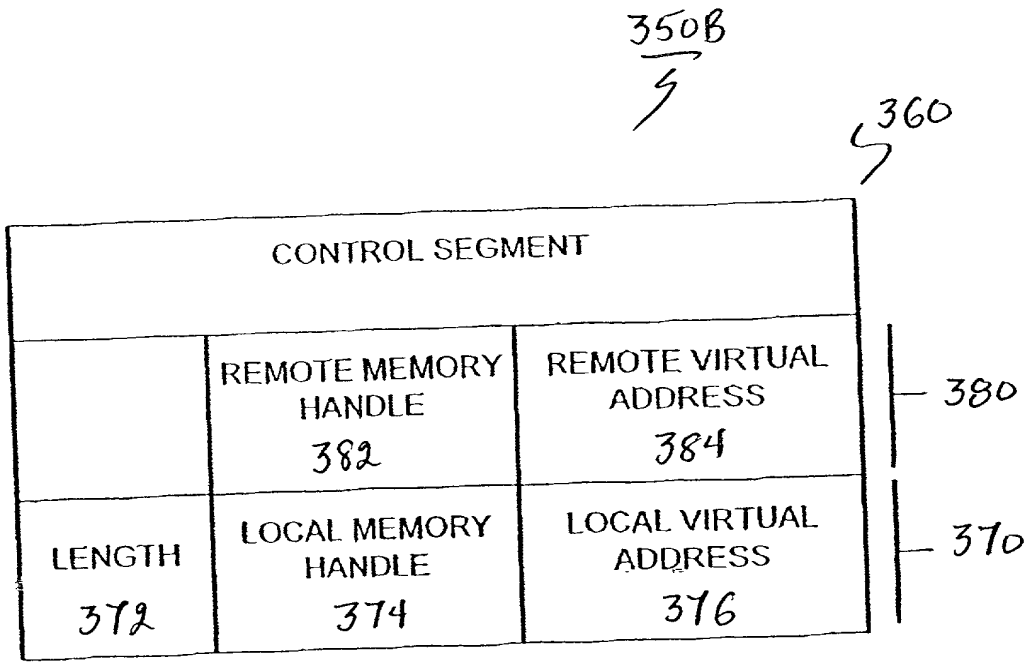

350B
360
CONTROL SEGMENT
REMOTE MEMORY HANDLE
382
REMOTE VIRTUAL ADDRESS
384
380
LENGTH
372
LOCAL MEMORY HANDLE
374
LOCAL VIRTUAL ADDRESS
376
370

FIG. 3C

008021 - 97E7E760

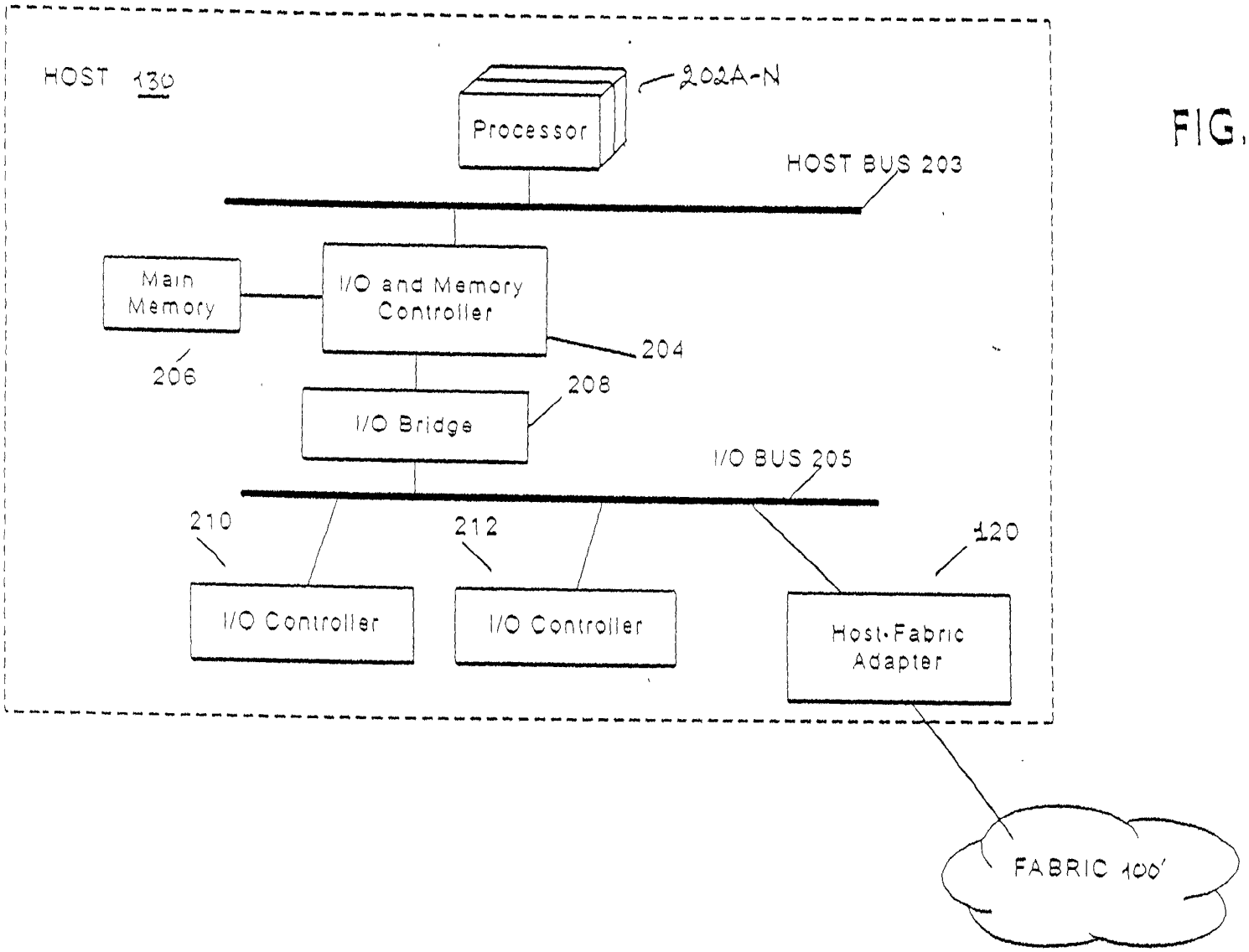


FIG. 4A

00802T "9h7E260

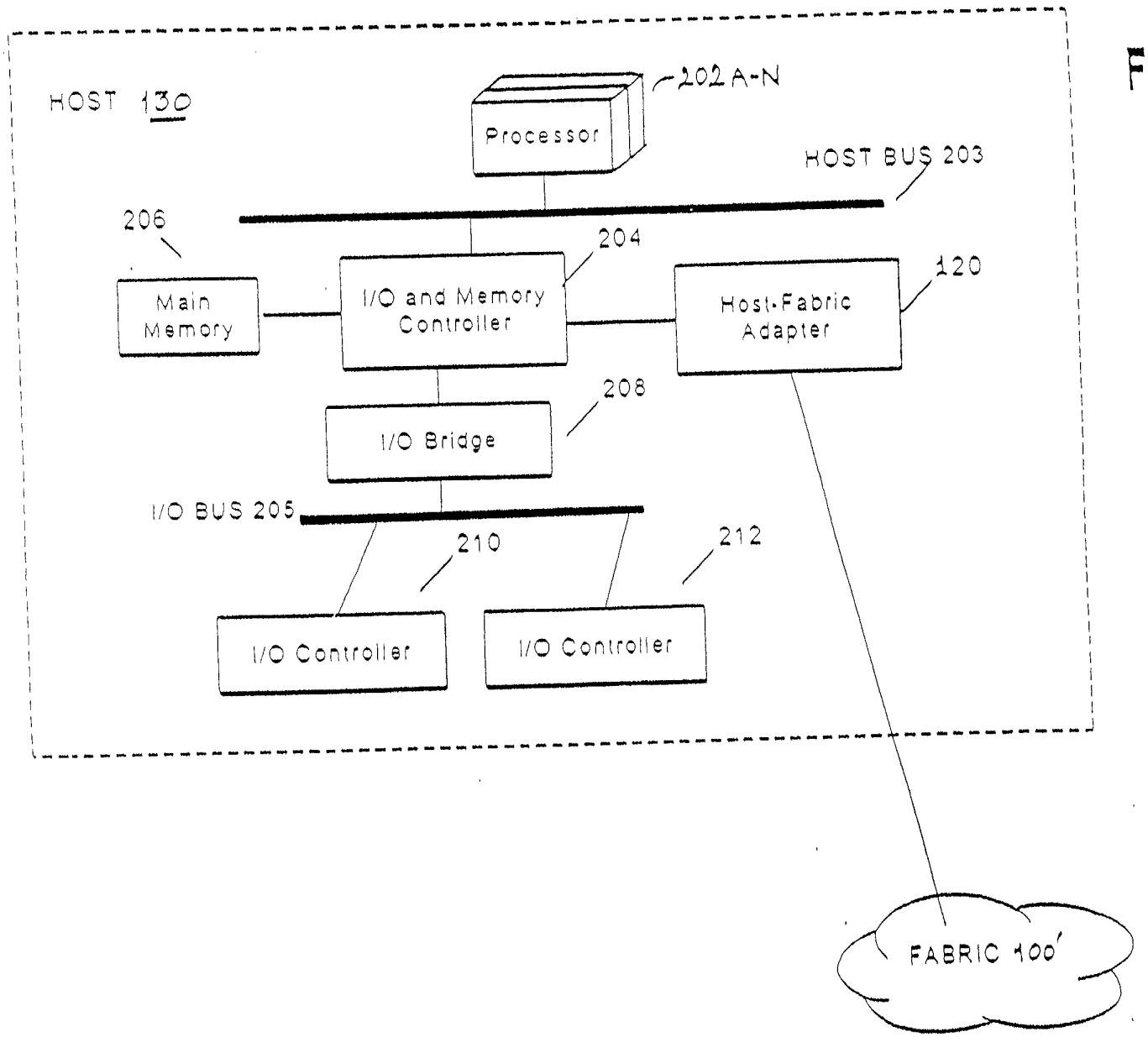
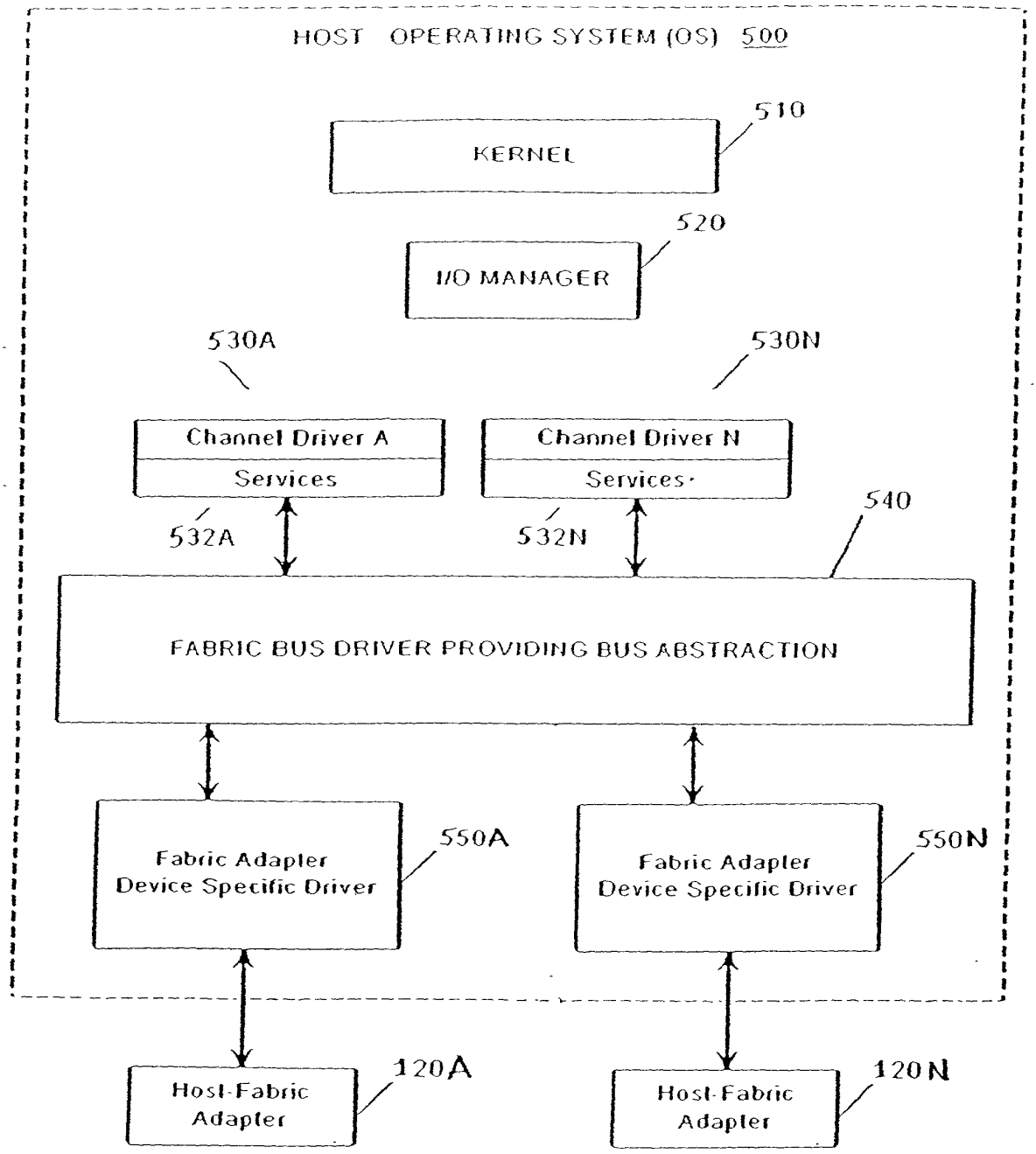


FIG. 4B



EXAMPLE SOFTWARE DRIVER STACKS OF HOST SYSTEM

FIG. 5

08827 "SKETCH

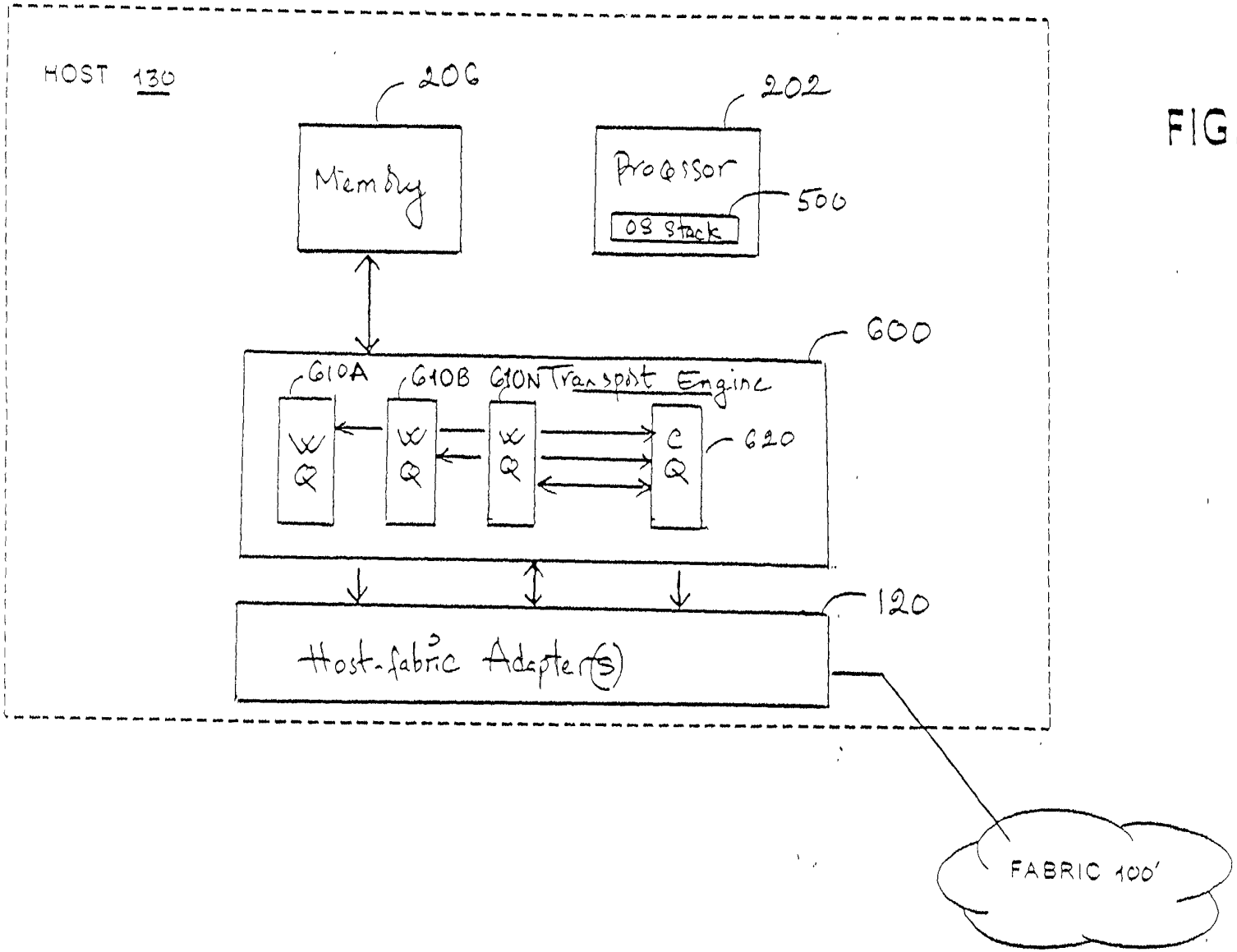


FIG. 6

FIG. 7

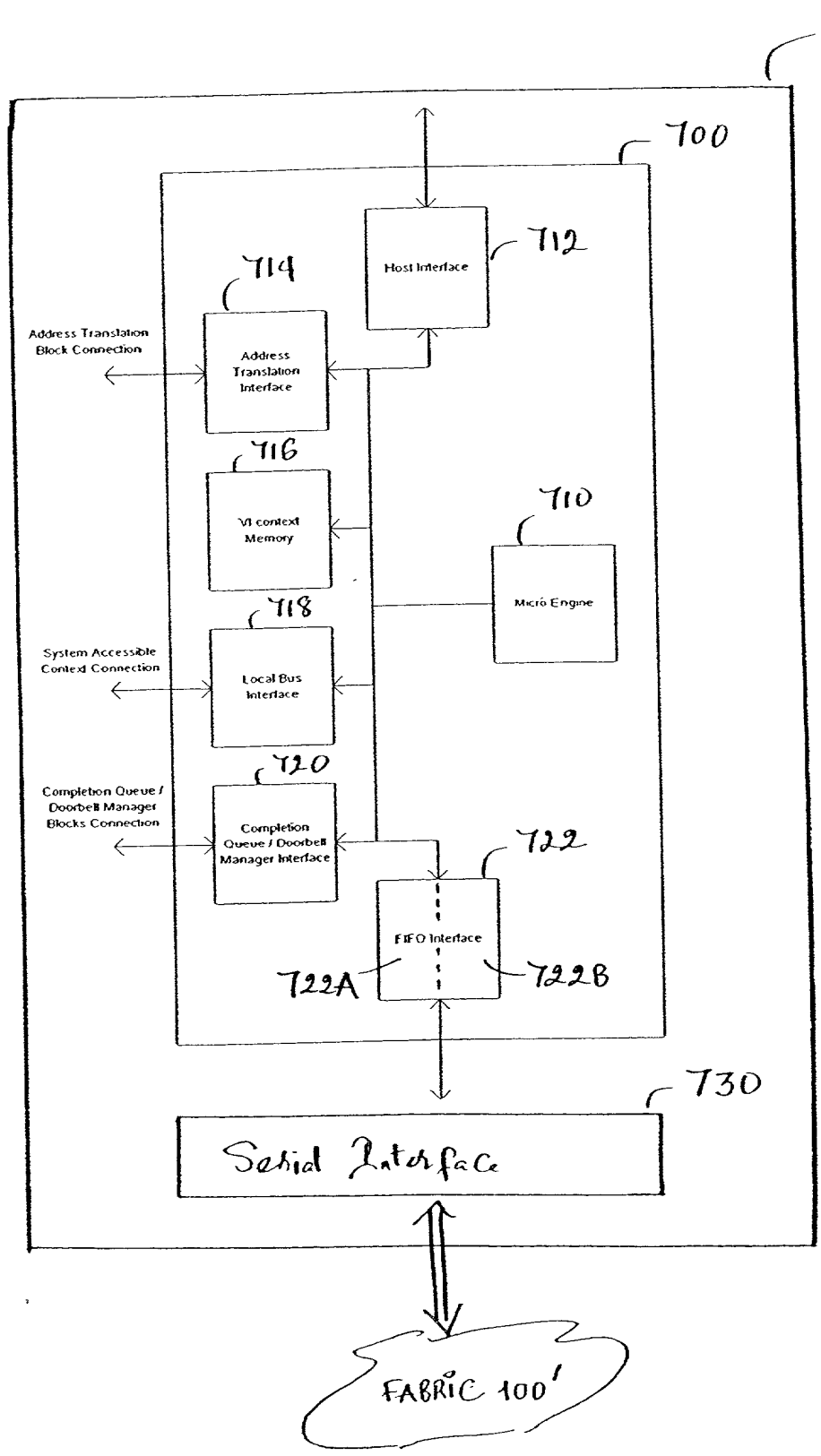

120
700
Host Interface
712
714
Address Translation Block Connection
Address Translation Interface
716
VI context Memory
710
Micro Engine
718
System Accessible Context Connection
Local Bus Interface
720
Completion Queue / Doorbell Manager Blocks Connection
Completion Queue / Doorbell Manager Interface
722
FIFO Interface
722A
722B
730
Serial Interface
FABRIC 100'

FIG. 8

710

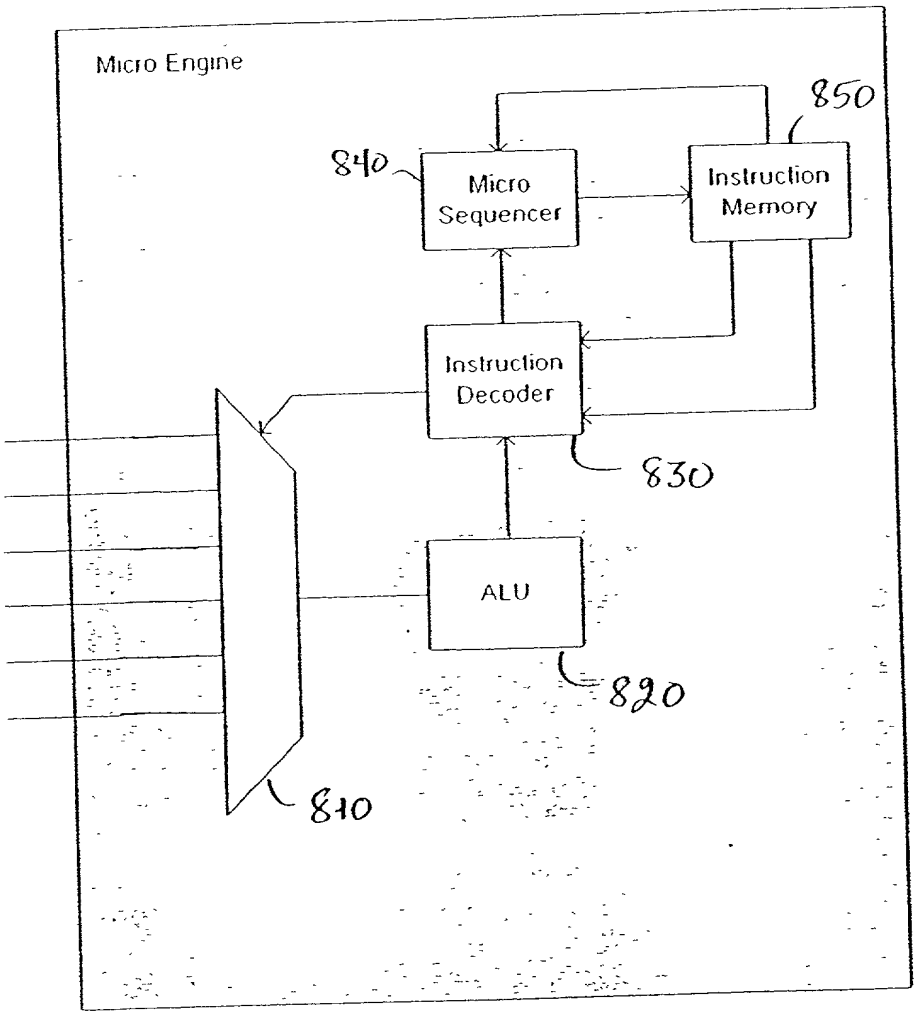

Micro Engine
850
840
Micro Sequencer
Instruction Memory
Instruction Decoder
830
ALU
820
810

FIG 9

710

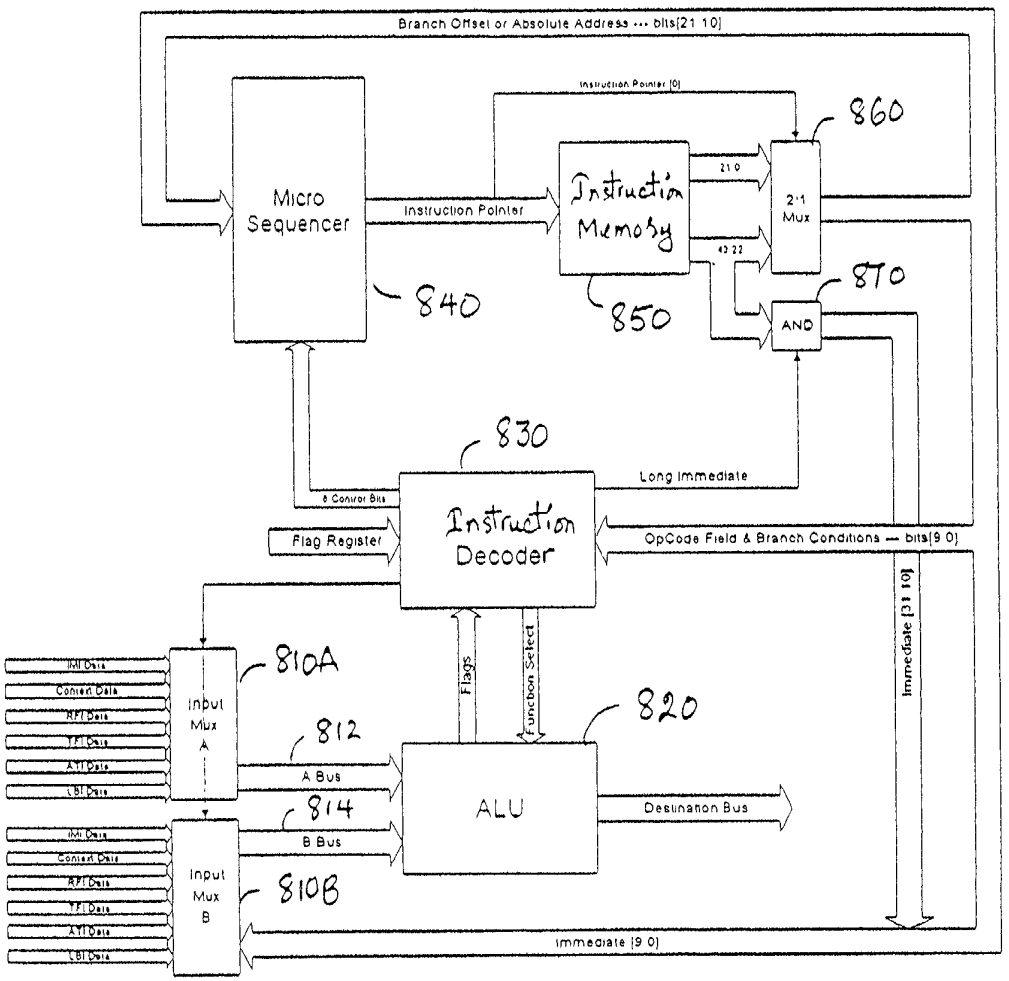
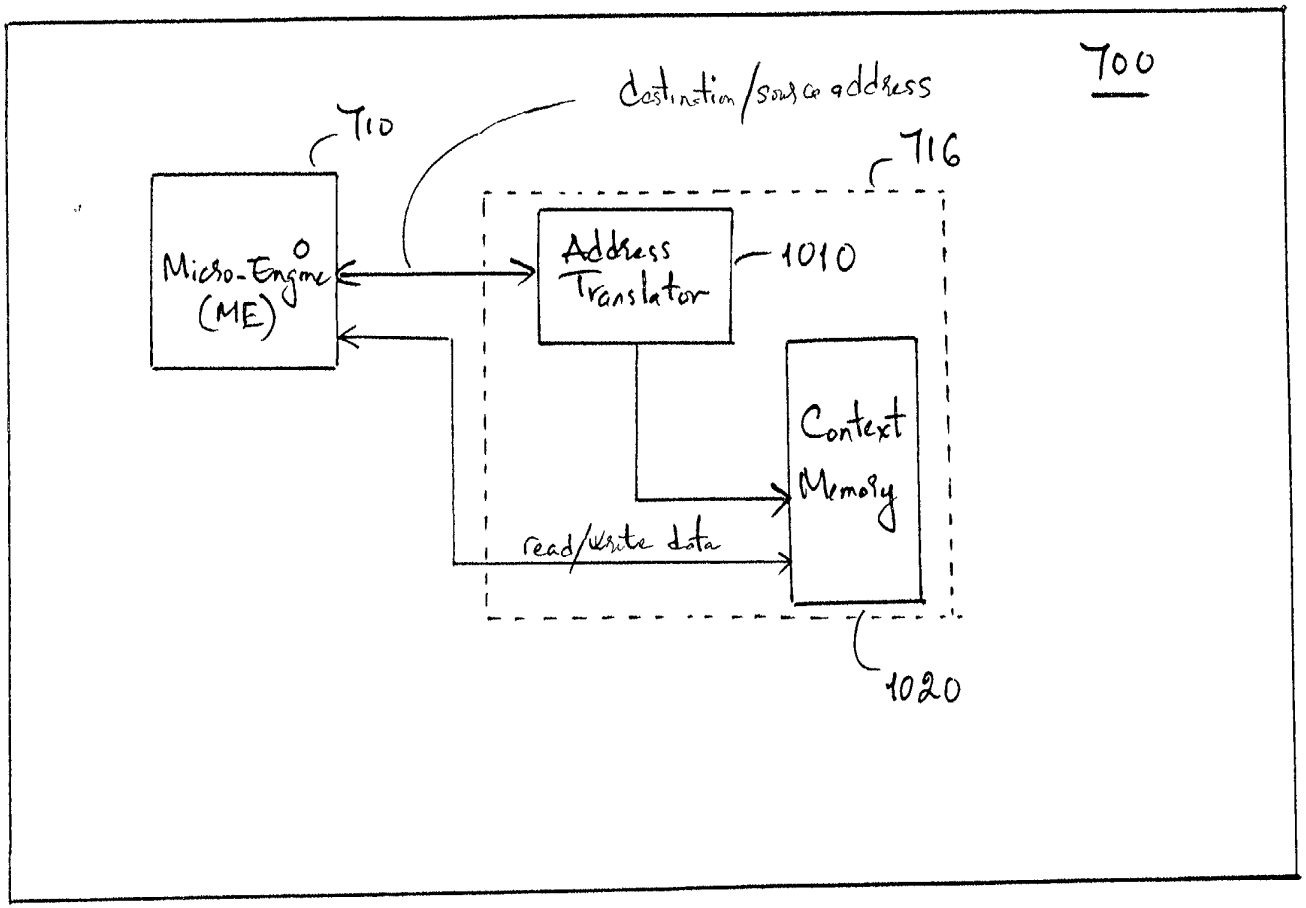

Branch Offset or Absolute Address ... bits[21 10]
Instruction Pointer [0]
860
Micro Sequencer
Instruction Pointer
Instruction Memory
21 0
43 22
2:1 Mux
840
850
870
AND
830
Long Immediate
8 Control Bits
Instruction Decoder
Flag Register
OpCode Field & Branch Conditions — bits[9 0]
Immediate [31 10]
Flags
Function Select
820
810A
Input Mux A
IMI Data
Context Data
RFI Data
TFI Data
ATI Data
LBI Data
812
A Bus
814
B Bus
ALU
Destination Bus
Input Mux B
810B
Immediate [9 0]

FIG. 10


700
710
Micro-Engine (ME)
destination/source address
716
Address Translator
1010
Context Memory
read/write data
1020

09734716260

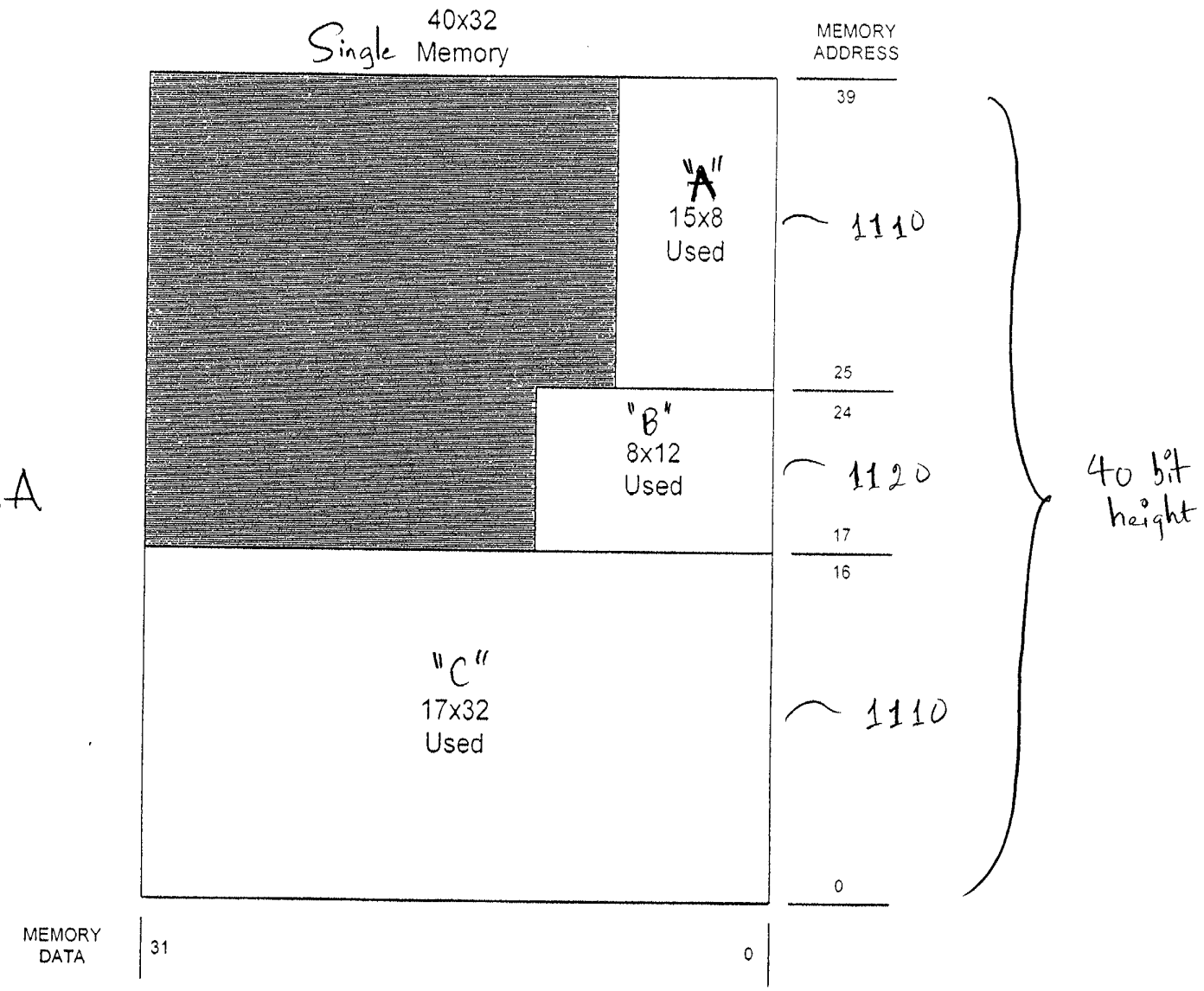
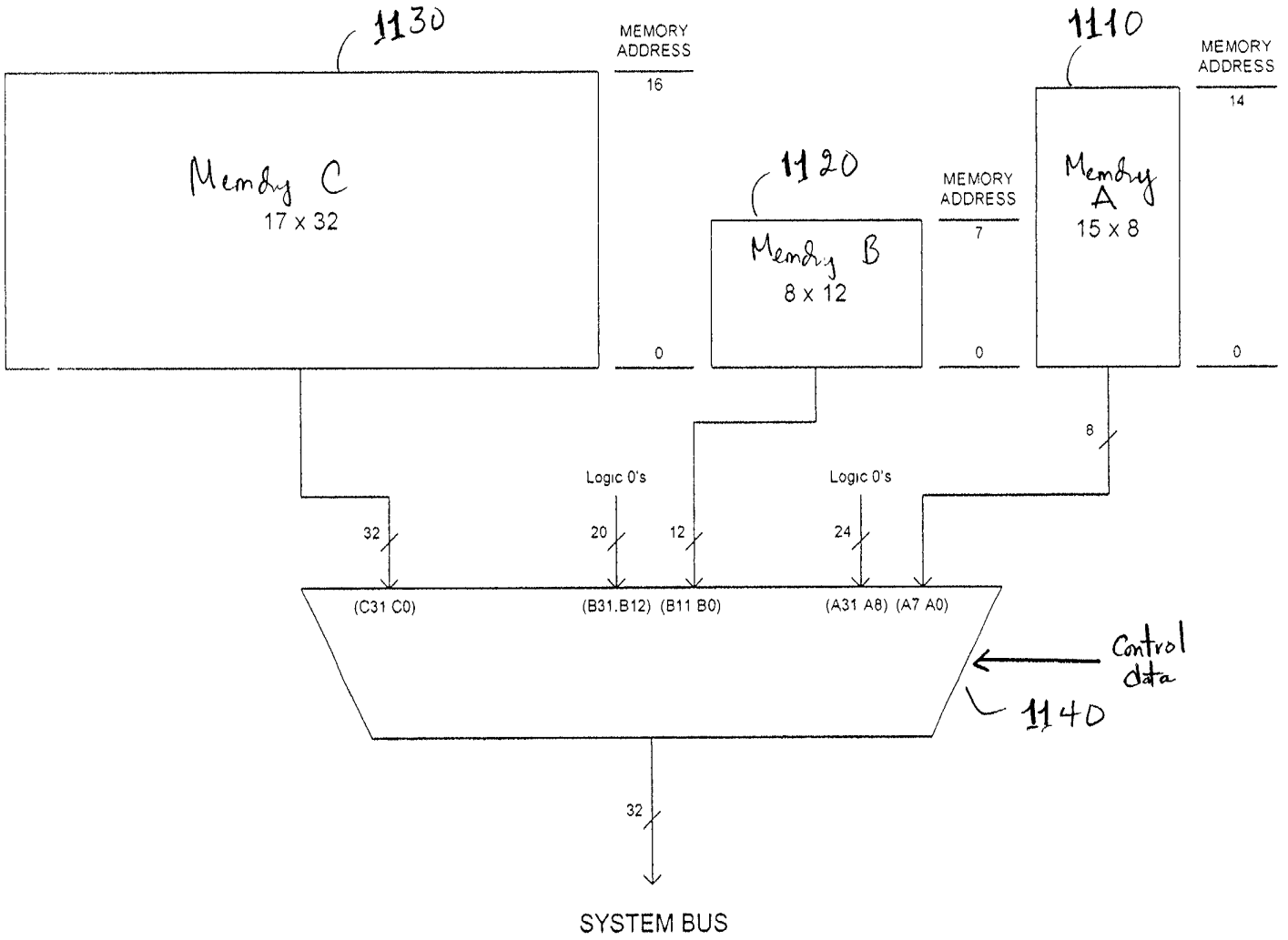


FIG. 11A

FIG. 11B


1130
MEMORY ADDRESS
16
Memory C
17 x 32
0
1120
MEMORY ADDRESS
7
Memory B
8 x 12
0
1110
MEMORY ADDRESS
14
Memory A
15 x 8
0
8
Logic 0's
Logic 0's
32
20
12
24
(C31 C0)
(B31.B12)
(B11 B0)
(A31 A8)
(A7 A0)
Control data
1140
32
SYSTEM BUS

06802T "9h<FE260

FIG. 12A

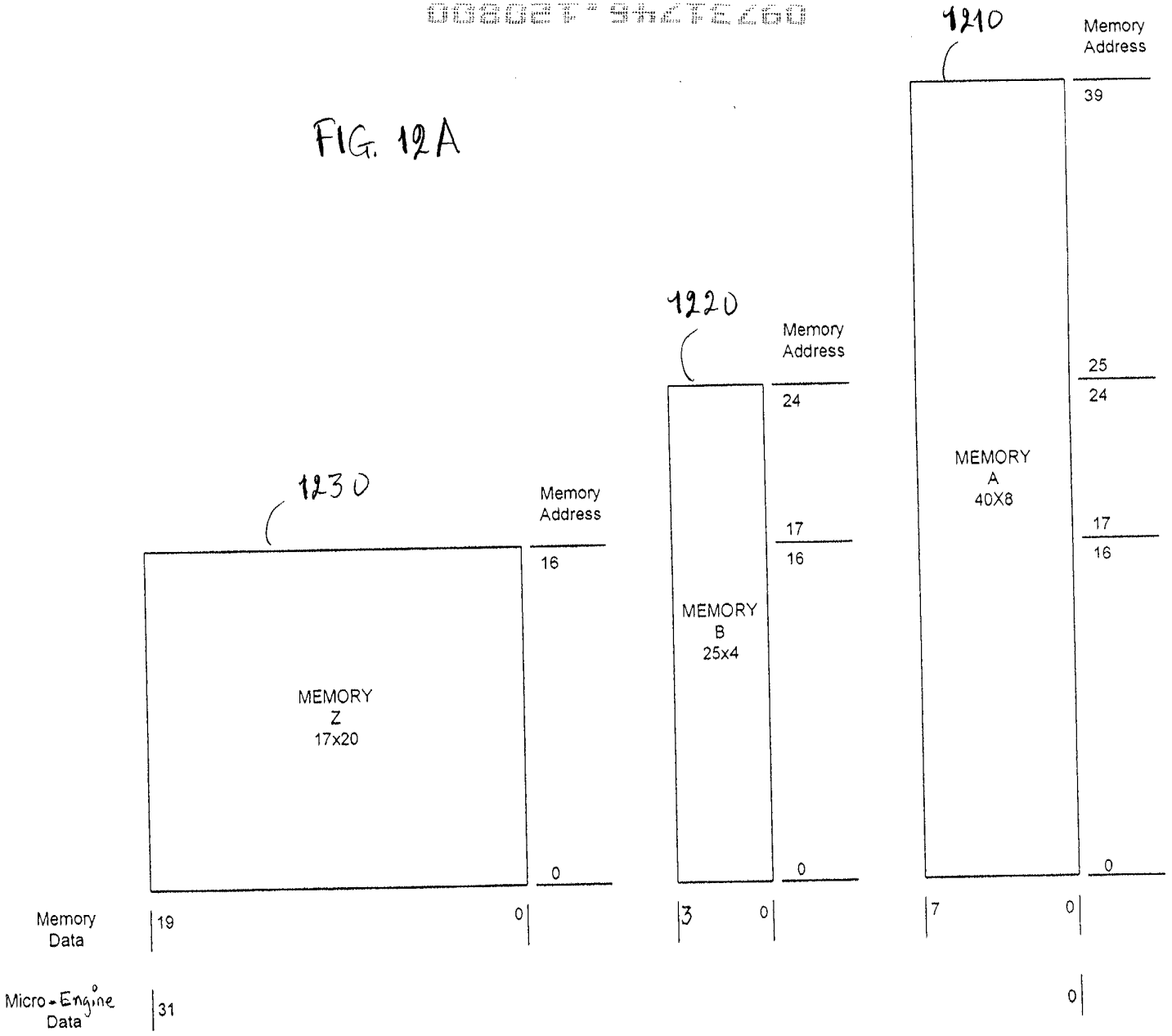


FIG. 12B

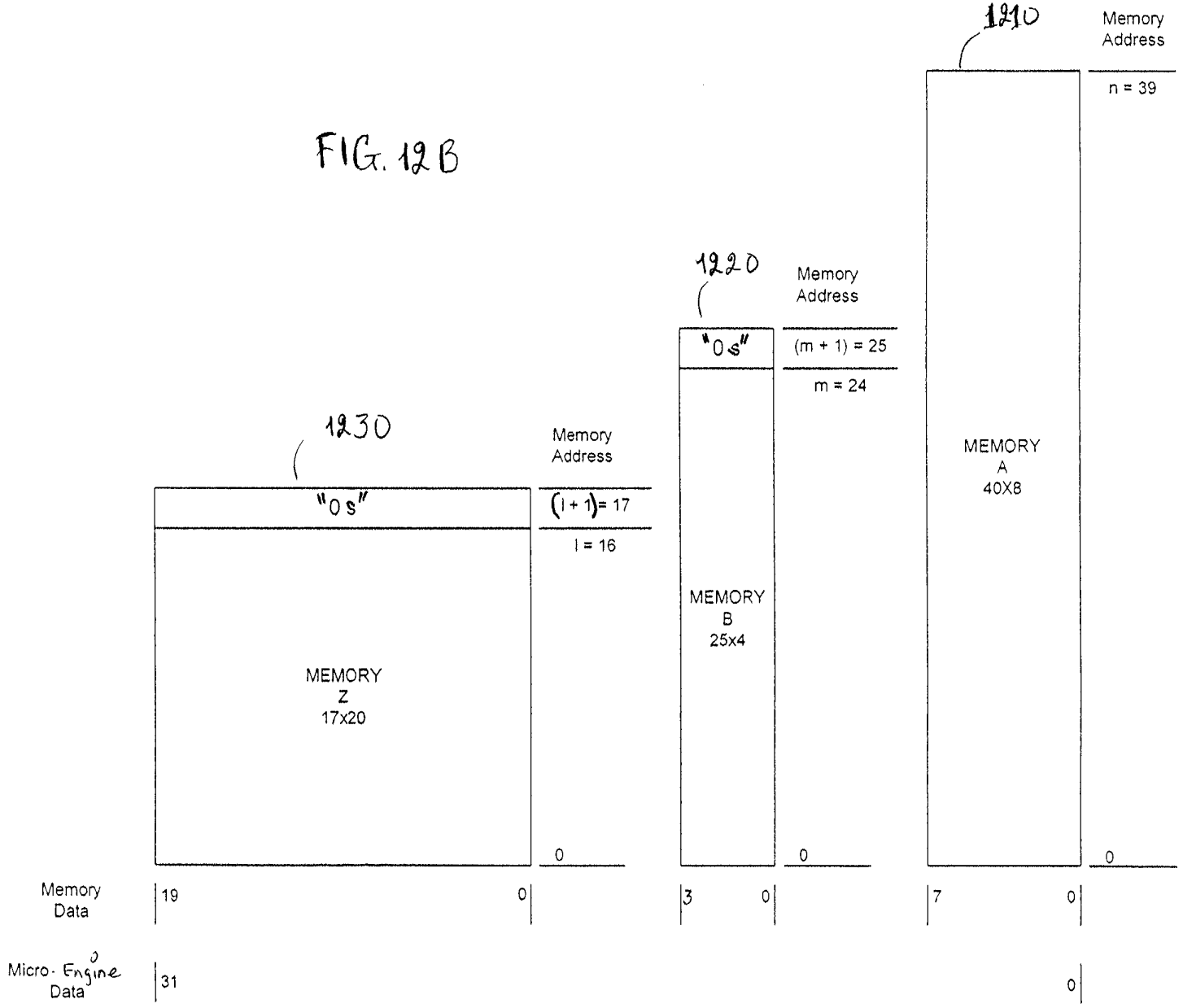

1210
Memory Address
n = 39
MEMORY A 40X8
0
1220
Memory Address
"0 s"
(m + 1) = 25
m = 24
MEMORY B 25x4
0
1230
Memory Address
"0 s"
(l + 1)= 17
l = 16
MEMORY Z 17x20
0
Memory Data
19
0
3
0
7
0
Micro-Engine Data
31
0

FIG. 13A

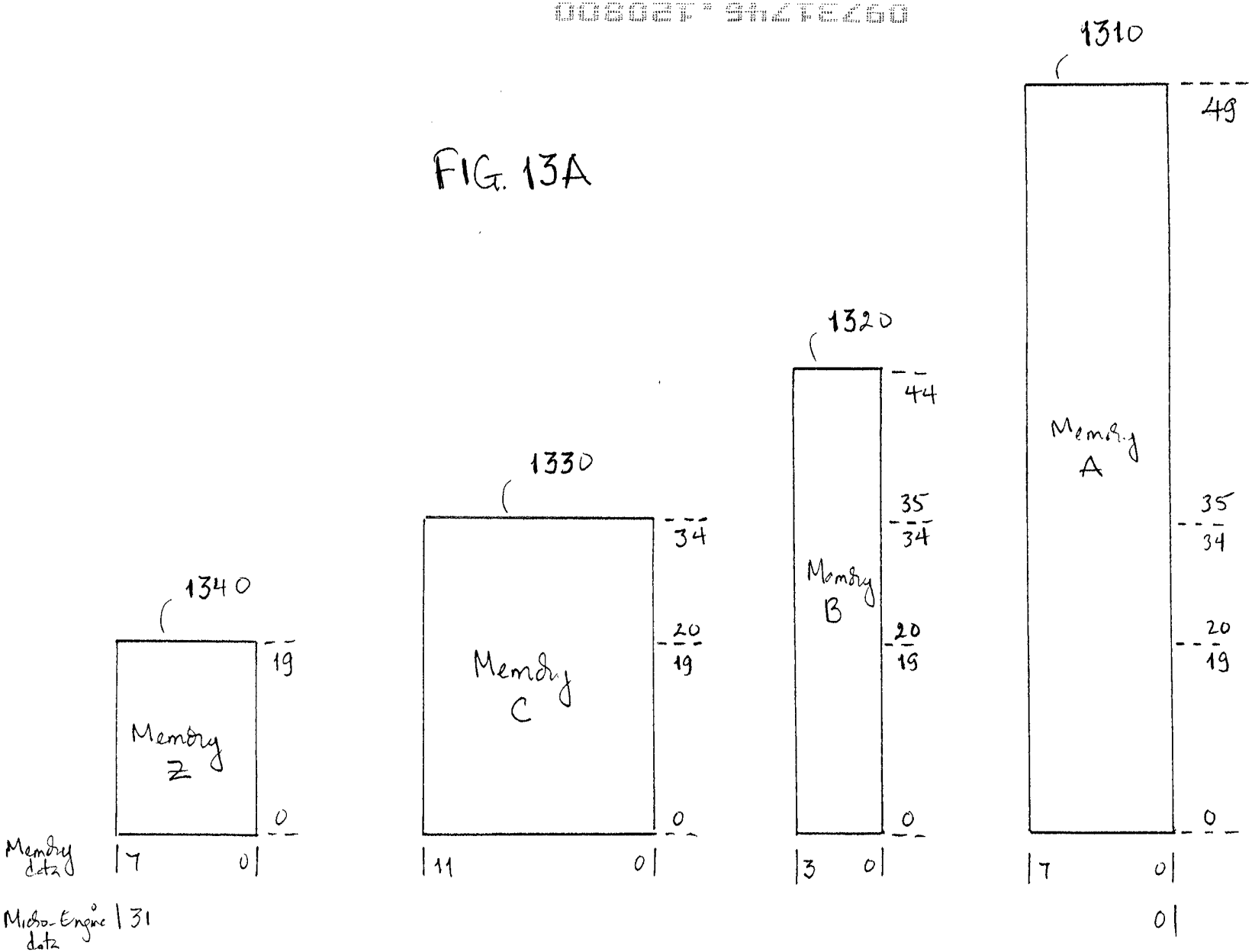
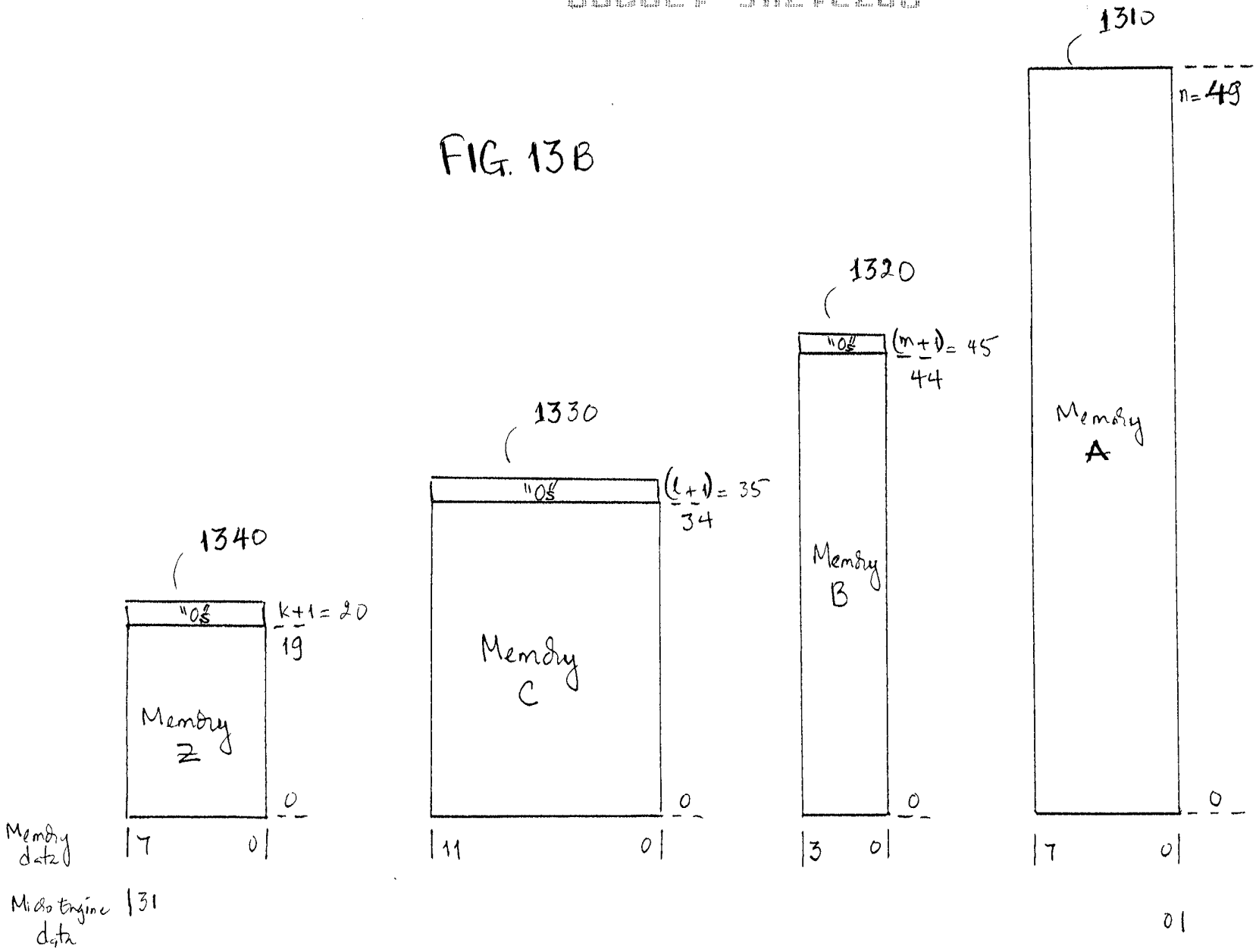

1310
49
Memory A
35
34
20
19
0
1320
44
Memory B
35
34
20
19
0
1330
34
Memory C
20
19
0
1340
19
Memory Z
0
Memory data
7
0
11
0
3
0
7
0
Micro-Engine data
31
0

FIG. 13B


1310
n=49
Memory A
1320
"0s"
(m+1)=45
44
Memory B
1330
"0s"
(l+1)=35
34
Memory C
1340
"0s"
k+1=20
19
Memory Z
0
Memory data
7
0
11
0
3
0
7
0
Micro engine data
31
0

008027 9h2TE260

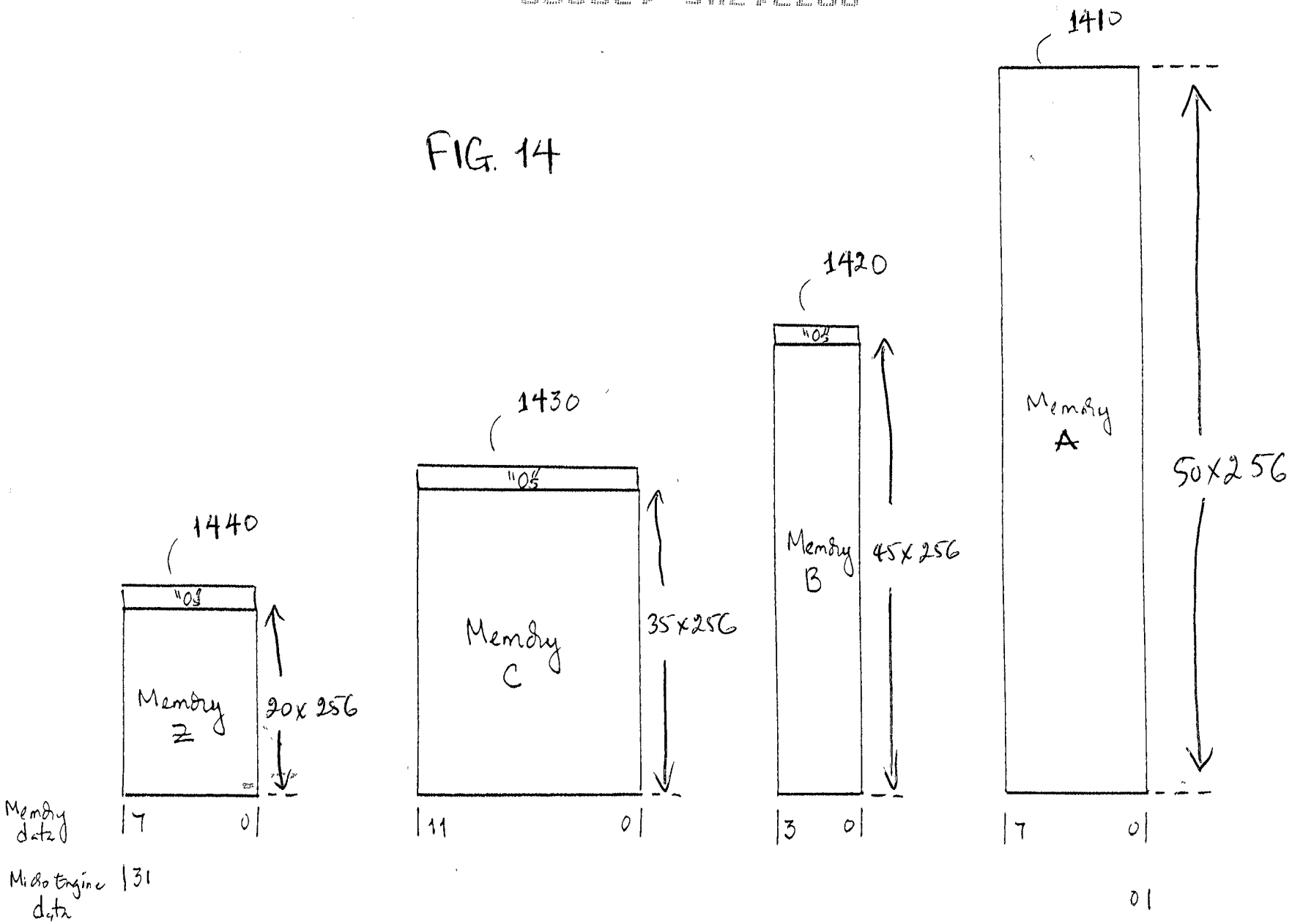



FIG. 14